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A COMPARISON OF THE RETIREMENT SYSTEMS
OF THE MILITARY ESTABLISHMENT OF THE
UNITED STATES WITH THAT OF THE
FEDERAL CIVIL SERVICE AND
WITH SELECTED BUSINESS
AND INDUSTRIAL
CONCERNs

ROLAND WILLIAM BREAULT

July
U. S. Naval Postgraduate School
Monterey, California

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8854

NORTHWESTERN UNIVERSITY

A COMPARISON OF THE RETIREMENT SYSTEMS OF THE MILITARY
ESTABLISHMENT OF THE UNITED STATES WITH THAT OF
THE FEDERAL CIVIL SERVICE AND WITH SELECTED
BUSINESS AND INDUSTRIAL CONCERNs.

A THESIS
SUBMITTED TO THE GRADUATE SCHOOL
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
for the degree
MASTER OF ARTS

DIVISION OF CORRELATED STUDIES

BY

ROLAND WILLIAM BREAULT

EVANSTON, ILLINOIS

JUNE, 1950

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U. S. Naval Postgraduate School
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INTRODUCTION

The early concept of pensions was that of relief for the needy and aged citizens of a community or group when it became evident to the authorities that such citizens were no longer able to provide for themselves and had no one capable of or interested in doing so.

The Industrial Revolution largely resulted in the centralization of occupations and the concentration of population in urban areas. The relative security of individuals diminished with the result that the weekly or monthly wage not only had to provide for current living expenses but in addition, a portion of it had to be set aside in savings to offset the period when loss of income was certain to arrive.

The situation became aggravated to the extent that it was no longer feasible to think only in terms of occasional relief cases. The question then, was how to spread earnings over a lifetime; over periods when the breadwinner was working and when he was not. It soon became evident that this could not be done, in the great majority of cases, on an individual basis; but, to a large extent, it could be done by planned group effort. Thus, our modern idea of retirement plans.

From the initial stage of relief, other reasons for

1. Appreciation is expressed to Dr. I. A. Berg of the Department of Psychology, Northwestern University for his criticisms and suggestions during the preparation of this thesis, and to Mr. G. D. Price of the Research Division of the Bureau of Naval Personnel for his assistance in the collection of statistical data.

pensions were conceived of and today we find that pensions are thought of as desirable for:(1)

- Continuity of Service
- Improvement of Morale
- Reduction of Labor Trouble
- Increased Loyalty
- Attraction of New Employees
- Goodwill in the Community
- Greater Output
- Reduction in Turnover
- Reward for Long Service
- Opening Avenues for Promotion
- Separation of Less Desirable Employees

The addition of reasons for pensions other than relief has come about largely through the emergence of an organized and somewhat independent labor force. However, there can be extracted three major reasons which in themselves are ample justification for the recognition of the pension movement. "The object of attaching a pension to a post is not merely to reward past services but attract continuity of service by the holder as well as to enable the employer to dispense with the services of the employee without hardship to him should age or infirmity render him less efficient."(2.119)

Perhaps the most important and most publicized concept has been that of recognition by the State of service under hazard by its citizens in uniform, and for which services, the State has considered itself under obligation. This obligation was first interpreted as relief for disabled military men but later branched out to include indigent ex-service men regardless of disability, and finally, as a reward for service with or without disability or hardship.

The latter concept has come to be recognized, not in the sense of a gratuity, as pensions are frequently thought of, but as a right. "Voluntary service (regulars) involves the acquisition of certain rights, the extent and conditions of which are known in advance to the individual concerned.

Those rights include a grant of a pension, varying with pay or rank, after a certain number of years service."(3 p.7)

A very recent application of the old welfare concept occurred in the Steel Strike of mid-summer 1949. The United Steelworkers of America, C.I.O. and certain companies in the basic steel industry were at odds on the point of company financed pensions. The President of the United States appointed a board to determine the issues. The conclusions of the board were ".....pensions should be considered a part of normal business costs to take care of temporary and permanent depreciation in the human machine in much the same way as provision is made for depreciation and insurance of plant and machinery. This obligation should be among the first charges on revenues."(4 p.8)

There does not seem to be any doubt that pensions are here to stay. "The concept of providing social insurance and pensions for workers in industry has become an accepted part of Modern American Thinking."(4 p.8) The need for this recognition is readily apparent when it is considered that the number of old people, over 65, in the United States has increased from five million in 1920 to eleven million at the

present time and predicted to be about twenty million by 1980.(5)

History. The earliest endeavor to establish some sort of protection has been attributed to the Collegia Societies in Rome.(6) In comparatively recent times it is noted that England established Navy Pensions in 1693 and Civil Service Superannuation Acts as early as 1834.(2) In the United States annuity contracts were in existence in 1759.(6) The Continental Congress passed the first military act in 1776.(2) Other milestones in the history of pensions in this country were:(7 p.55)

- 1857 First private pension plan in American Industry.
- 1875 First Municipal pension plan established for New York City Police.
- 1894 First Statutory retirement system for teachers adopted in New York City.
- 1914 First State Old Age Pension Law, Arizona.
- 1920 Federal Civil Service Retirement.
- 1934 Railroad Retirement Act.
- 1935 Social Security Act.
- 1948 Civil Service Retirement Act amended to include protection for survivors of Federal employees.

Types. Pensions may be classified into two broad categories, namely Public and Private. These may further be broken down as follows:(2)

- Public:
 - Old Age.
 - Invalid or Disability.
 - Maternity.
 - Widows'
 - Civil Service.
 - Municipal.
 - Military.
 - Teachers.

Private.

Clergymen.
College Professors.
Individual.
Industrial.
Commercial.

The first four types of public pensions are mainly for the relief of indigent, infirm or otherwise disabled persons, while the latter four are designed to solve the problems of superannuation, continuity of service and reward for service under undesirable conditions.

The plans for clergymen and college professors come within the classification of private plans inasmuch as they usually contemplate contributions from the individuals concerned and are funded and administered by private financial institutions. Much of the same can be said for the industrial and commercial plans. Individual plans exist wherein certain persons desire to provide for their own retirement independently.

Purpose. The purpose of this study is to determine whether or not the retirement plans of the Military Establishment of the United States are comparable to those plans established in other organizations of like size and importance and to determine further the changes that should be made in the military plans, if any, in view of current thought and circumstance.

Proponents and opponents of the various private and public plans have expounded their theories and advocated their particular brand of ideas concerning pensions and

retirement. One is usually unaware of the deficiencies or advantages in a particular plan unless some effort is made to compare that plan with similar plans in other organizations.

Pensions, as we know them today, are granted or contracted for a number of reasons. The monetary return is not always the sole determination of an adequate plan, nor is age or superannuation always the reason for the establishment of such plans. Therefore, the evaluation of a plan as to its adequacy and justification depends on a variety of factors and conditions peculiar to the enterprise or organization itself and the trend of thought generally held at the time. This necessity for thorough appraisal of the situation is evident. Consider the positive statement ".....the fundamental purpose of a retirement plan.....is to meet the superannuation problem."(8 p.39), as compared to "The ideal retirement age should depend on the occupation of an individual and on his physical condition."(9 p.13) Also, "Pensions are generally recognized as being a reward for continuity of service; as a tangible recognition of a valuable service rendered to the State as in the case of military pensions."(2)

The Continental Congress in 1776 evidently decided there were factors to consider, other than age, when it provided that officers of the regular army be entitled to half pay for life for service only until the end of the Revolutionary War.(10)

In any event, it is fairly obvious that no one concept is sufficient on which to base the retirement of a force as large as that of the United States military in view of the numerous factors affecting the members and the conditions under which they live, due to the peculiarities and incidences of the Service. Therefore, although many plans have been published and some of those are in use, an evaluation of a particular plan (military) in the light of known situations and foreseeable circumstances is in order.

PROCEDURE

Scope. The scope of study has been limited to the analysis of plans currently in effect for the Federal Civil Service, the Military Establishment, a large number of retirement plans in industry and commerce adopted in recent years combined with a smaller number of large nationally known industrial and commercial plans as of current date. The effect of the national Social Security Law on all of the above plans will be taken into consideration.

It has not been considered pertinent to the problem to undertake a study of the various methods of funding inasmuch as military retirement costs are appropriated annually by the Congress. Any departure from the present method would not serve any useful purpose as the procedure would merely amount to bookkeeping entries and the funds submerged into the general funds of the Treasury and used for current purposes and expenses. In addition, further expense would be incurred to provide the personnel necessary to administer such a fund. (8)

The problem of analysis would be an extremely difficult one if any attempt were made to consider the effect of numerous details peculiar to the military alone, such as limited duty, temporary appointments, promotion, selection boards, retirement boards, combat citations and others too numerous to mention. It has been attempted to retain only those factors which enable adequate evaluation and still

permit logical comparison.

Further, in order to simplify the process, the Army and Air Force plans will be treated as one and henceforth referred to as the Army Plan.

The Navy and Marine Corps plans will be treated as one and henceforth referred to as the Navy Plan. Such treatment is not incompatible with the facts as the Air Force is newly created, and as yet does not differ substantially with the Army on questions of retirement. The Navy and Marine Corps have little or no differences on this question as the Corps has been administered by the Navy since its inception. As a further step in this study, the military plans have been merged and only their significant differences noted. Henceforth the various military plans will be referred to as the military retirement system except in cases where significant differences need to be referred to as either Army or Navy.

The following company plans have been chosen as a current representative sample of industry and commerce on the basis of their size and importance in the economy of the country as well as allowing for variations in type by covering a variety of industries. Only the bigger and better programs of industry are to be considered inasmuch as government IS big business and has obligations to its citizens and employees greater than any business has to its employees.

1. American Telephone and Telegraph Company.

2. E.I. DuPont de Nemours and Company.
3. Eastman Kodak Company.
4. General Electric Company.
5. General Foods Company.
6. Greyhound Corporation.
7. International Business Machines Corporation.
8. S.S. Kresge Company.
9. Commonwealth Edison Company.
10. Standard Oil Company of New Jersey.
11. United Air Lines Corporation.
12. U.S. Rubber Company.

Definitions. The requirements of practically any pension plan which must be considered are:

Employee Classification
Eligibility
Retirement Ages
Vesting
Contributory or non-contributory
Benefits
Costs
Disability
Termination of Plan
Principles of Dependency
Length of Service
Funding

Employee classification pertains to the salary group or wage earning group. In the case of the military, classification would pertain to rank, rate or grade.

Eligibility concerns itself with the determination of requirements as to minimum service, maximum age, minimum age or similar proviso.

Retirement ages usually pertains to the normal or early ages at which retirement is allowed with full benefits or partial benefits computed by formula in accordance with actuarial principles.

Vesting means the transfer to an employee prior to his

normal retirement age, of pension rights which are no longer contingent on his continued service with the organization. The procedure may involve various degrees of transfer.

The contributory and non-contributory principles concern themselves with the method by which the funds available for pensioning are accumulated. In the contributory method, the employee as well as the employer contribute to the fund. The non-contributory method does not provide for employee contributions.

The term, benefits, refers to the formula used in the computation of monetary benefits received by the retired employee and takes into consideration most of the requirements of a pension plan in its formulation.

Costs refer directly to the net expense of funding and administering a retirement plan based on applicable formulae.

Disability provisions concern themselves with the circumstances and regulations pertaining to a period when the employee receives greater or lesser benefits than normal retirement benefits when incapacitated for further employment.

Termination of Plans means under what conditions does the plan become inoperative, inapplicable or cancelled.

Principles of Dependency refers to incorporation of certain benefits for the survivors of persons eligible for retirement either prior or subsequent to demise.

Length of Service refers to number of years and months which are taken into consideration in the formulation of benefits.

Data. The data were obtained from the following publications and sources:

Officers Personnel Act of 1947. Public Law
• 381, 80th Congress.

Career Compensation Act of 1949. Public Law
351, 80th Congress.

Career Compensation for the Uniformed Forces.
A Report and Recommendation for the Secretary of Defense by the Advisory Commission on Service Pay, December, 1948.

Report to the President of the United States on the Labor Dispute in the Basic Steel Industry, September, 1949.

Civil Service Retirement Act of May 29, 1930 as amended to October 19, 1949.

U. S. Civil Service Commission Retirement Report Fiscal Year Ended June 30, 1948.

Social Security Act of 1935 as amended to 1949.

289 Retirement Plans as published by the Bankers Trust Company of New York City in 1948.

Retirement plans in 612 companies studied by Hugh O'Neil, in Modern Pension Plans, New York; Prentice-Hall 1947.

Individual Company plans from selected industries for current analysis.

Correspondence with cognizant Federal Agencies.

Correspondence with various industrial and commercial organizations included in the scope of the study.

Miscellaneous books reports, articles and monographs as listed in bibliography and reading list.

Criterion. A firm criterion which could be used in comparing the retirement system of the military was not possible to establish because of the necessarily subjective nature of any such measuring device. On this subject, there is hardly any one person or group of persons that will agree with others as to what is essential for a sound, adequate and justifiable program. The changes in technology, economy, health, mortality, national income, inflation, deflation, conditions of employment and many other are not all

viewed in the same manner nor are they evaluated precisely the same by those concerned with the formulation and implementation of retirement plans.

It was found that after deletion of technical details, exclusion of funding problems, minor differences and certain irrelevant material, there seemed to be a convergence of thought on the problems of:

Normal retirement age.
Optional retirement age.
Benefits.
Vesting.
Disability.
Length of Service.
Survivorship Benefits.

The only practicable way available to evaluate the military retirement system was to examine all the plans within the scope of the study, establish the points of convergence, compare the points of convergence in each plan, weigh them one against the other in terms of known facts and interpret the differences in accordance with the known peculiarities and conditions of the particular organization.

The study does not purport to have given the answer to the question of retirement, but rather has attempted to compare.

RESULTS

RESULTS

TABLE I
CORRESPONDING PAY GRADE OF
MILITARY RANK AND RATE

PAY GRADE	ARMY, AIR FORCE, MARINE CORPS	TITLE	NAVY
O-8	General, lieutenant general and major general	Admiral, vice admiral and rear admiral (upper half)	
O-7	Brigadier general	Rear admiral (lower half) and commodore	
O-6	Colonel	Captain	
O-5	Lieutenant Colonel	Commander	
O-4	Major	Lieutenant Commander	
O-3	Captain	Lieutenant	
O-2	First Lieutenant	Lieutenant (junior grade)	
O-1	Second Lieutenant	Ensign	
W-4	Warrant	Warrant	
W-3	Warrant	Warrant	
W-2	Warrant	Warrant	
W-1	Warrant	Warrant	
E-7	Master Sergeant First Sergeant	Chief Petty Officer	
E-6	Sergeant First Class Technical Sergeant	Petty Officer First Class	
E-5	Sergeant Staff Sergeant	Petty Officer Second Class	
E-4	Corporal Sergeant	Petty Officer Third Class	
E-3	Private First Class Corporal	Seaman	
E-2	Private Private First Class	Seaman Apprentice	
E-1	Recruit Private	Seaman Recruit	

Source: Office of the Secretary of Defense,
Washington, D.C.

TABLE II
MONTHLY BASIC PAY OF MILITARY
(nearest dollar)

GRADE	CUMULATIVE YEARS OF SERVICE										
	2	4	6	8	10	12	14	16	18	22	26
O-8	926	926	926	926	926	926	926	926	926	926	954
O-7	769	769	769	769	769	769	769	769	769	798	826
C-6	670	570	570	570	570	570	570	584	612	641	698
O-5	456	456	456	456	456	456	470	484	498	527	584
O-4	384	384	384	384	399	413	427	441	456	484	513
O-3	313	313	327	342	356	370	384	399	413	427	441
O-2	249	263	277	293	306	320	334	349	349	349	349
O-1	213	228	242	270	285	299	313	313	313	313	313
W-4	320	320	320	334	349	363	378	392	407	421	436
W-3	291	291	291	298	305	312	320	327	334	349	363
W-2	254	254	254	254	261	269	276	283	291	305	320
W-1	210	210	210	218	225	232	240	247	254	269	283
E-7	198	198	205	213	220	227	235	242	249	264	279
E-6	169	169	176	183	191	198	205	213	220	235	249
E-5	139	147	154	161	169	176	183	191	198	213	227
E-4	117	124	132	139	147	154	161	169	176	191	191
E-3	95	102	110	117	124	132	139	147	147	147	147
E-2	82	90	105	112	120	120	120	120	120	120	120
E-1	80	87	95	95	95	95	95	95	95	95	95

Source: Office of the Secretary of Defense,
Washington, D.C.

TABLE III
MONTHLY QUARTERS ALLOWANCES
OF MILITARY

PAY GRADE	WITH DEPENDENTS	WITHOUT DEPENDENTS
O-8, O-7	\$150.00	\$120.00
O-6	120.00	105.00
O-5	120.00	90.00
O-4, W-4	105.00	82.50
O-3, W-3	90.00	75.00
O-2, W-2	82.50	67.50
O-1, W-1	75.00	60.00
E-7, E-6, E-5	67.50	45.00
E-4 (a)	67.50	45.00
E-4 (b,c)	45.00	45.00
E-3, E-2, E-1(c)	45.00	45.00

(a) Seven or more years service.
 (b) Less than seven years service.
 (c) Considered as without dependents.

Source: Office of the Secretary of Defense,
 Washington, D. C.

TABLE IV
MONTHLY SUBSISTENCE ALLOWANCE
OF MILITARY

RANK/RATE	PROVISION	AMOUNT
Officers-All ranks.	Allowed at all times.	\$42.00
Enlisted-All rates.	Provision to mess separately(a)	31.50
	Rations in kind not available	67.50
	No Gov't messing available	90.00

(a) Enlisted men without dependents usually mess together and no allowance paid.

Source: Office of the Secretary of Defense,
Washington, D.C.

TABLE V
MONTHLY RETIREMENT PAY
MILITARY PERSONNEL

GRADE	CUMULATIVE YEARS OF SERVICE					
	20	22	24	26	28	30
O-8	\$463	\$509	\$555	\$602	\$648	\$716
O-7	384	423	461	518	558	619
O-6	306	352	384	435	468	523*
O-5	263 *	305	333	379	408	438
O-4 (a)	242 *	274	299	333	359	384
O-3	213	242	265	287	309	331
O-2	174	192	209	226	244	261
O-1	156	172	188	203	219	235
W-4 (b)	210	240	261	293	315	349 *
W-3	174	200	218	245	264	294
W-2	152	176	192	217	234	261
W-1	134	156	170	193	208	223
E-7 (c)	132 *	153	167	191	205	220 *
E-6	117 *	137	149	162	174	187
E-5	106	125	136	148	159	170
E-4	95	105	114	124	133	143
E-3	73	80	88	95	102	110
E-2	60	66	72	78	84	90
E-1	47	52	57	61	66	71

* Indicates ranks or rates in which voluntary retirement occurs the most.

- (a) Although figures shown for all ranks through twenty and thirty year period, great majority of Officers below pay grade O-4 would have been attrited prior to twenty year period.
- (b) Warrant ranks do not suffer attrition by virtue of examinations and non-selection for promotion.
- (c) 75% of enlisted personnel hold rate of pay grade E-7 at time of retirement.

TABLE VI

COMPARABLE PROVISIONS OF
MILITARY RETIREMENT PLAN

Year Plan Established	1899
Number of Participants	1,500,000 (approx.)
Number of Annuitants	56,911
Participation Eligibility Requirements	None
Conditions of Eligibility for Retirement	Minimum of 20 years service with 30 years considered normal
Early Retirement	None
Disability	Annuity determined by percentage of disability times pay of rank or rate held at time of retirement.
Benefits	Officers- $2\frac{1}{2}\%$ of basic pay of rank held at time of retirement times years of service or 2.02% of total pay and allowances times years of service. Enlisted- $2\frac{1}{2}\%$ of basic pay of rate held at time of retirement times years of service or 1.87% of total pay and allowances times years of service.

Source: Office of the Secretary of Defense,
Washington, D. C.

TABLE VII
COST OF MILITARY RETIREMENT PLAN
FISCAL YEAR 1950

	AMOUNT	PERCENT
Total National Budget	\$45,000,000,000	100.00
Total Military Budget	14,000,000,000	31.11
Appropriation for Pay, subsistence and Trans- portation of Military	4,578,400,000 (a)	10.17
Funds for Retirement	211,000,000 (b,c)	.46

(a) 32.7% of total military budget.

(b) 1.5% of total military budget.

(c) 4.6% of appropriation for pay, subsistence and transportation.

Source: Office of the Secretary of Defense,
Washington, D. C.

TABLE VIII

LENGTH OF SERVICE OF
NAVY ENLISTED PERSONNEL

As of 30 September 1949

LENGTH OF SERVICE	TOTAL
Less than 2 years	128,681
2 to 4 years	72,912
4 to 6	46,128
6 to 8	37,208
8 to 10	28,206
10 to 12	11,224
12 to 14	10,471
14 to 16	6,150
16 to 18	3,044
18 to 22	4,799
22 to 26	1,089
26 to 30	487
Over 30	181
	<u>350,580</u>
	TOTAL

Breakdown 18 to 22 years

18 to 19 years	1,545
19 to 20	1,376
20 to 21	1,090
21 to 22	788
	<u>4,799</u>
	TOTAL

Source: Bureau of Naval Personnel, Washington, D. C.

TABLE IX
ESTIMATED AGE DISTRIBUTION
REGULAR NAVAL PERSONNEL

As of 30 September, 1949

AGE	OFFICERS	ENLISTED	AGE	OFFICERS	ENLISTED
17		4,165	41	1,157	878
18		26,562	42	864	673
19		57,426	43	777	468
20	11	59,054	44	616	382
21	229	34,728	45	621	272
22	887	21,358	46	555	184
23	1,876	18,113	47	529	212
24	2,461	18,346	48	464	204
25	2,345	15,516	49	403	172
26	2,249	13,190	50	303	99
27	2,254	11,334	51	261	48
28	2,348	11,394	52	176	40
29	2,384	9,898	53	143	33
30	2,070	8,141	54	101	28
31	2,248	7,220	55	106	22
32	2,317	6,164	56	81	11
33	2,205	5,293	57	75	6
34	2,190	4,394	58	61	8
35	1,881	3,566	59	44	7
36	1,695	2,920	60	37	6
37	1,696	2,537	61	32	4
38	1,627	2,128	62	18	1
39	1,532	1,616	63 & Over	32	0
40	1,286	1,179			
			TOTAL	45,247	350,580

Source: Bureau of Naval Personnel, Washington, D.C.

TABLE X
ARMED SERVICES RETIREMENT *
ACTIVE DUTY DATA

SERVICE BRANCH	RETIREMENT NUMBERS		ACTIVE DUTY NUMBERS		DATE APPLICABLE
	OFFICERS	ENL.	OFFICERS	ENL.	
Army	10,571	22,504	68,562	590,066	9/30/49
Air Force	976	4,359	59,754	360,165	8/31/49
Marine Corps	1,301	1,384	7,022	75,284	1/1/50
Navy	<u>15,064</u> <u>27,912</u>	(a) <u>18,572</u> <u>28,999</u>	<u>45,247</u> <u>180,685</u>	<u>350,580</u> <u>1,376,095</u>	9/30/49

(a) 4500 ex-enlisted Naval personnel retired as Officers.
* Prior to Career Act, enlisted disabled personnel were discharged and came under cognizance of the Veterans Administration.

Source: Office of the Secretary of Defense,
Washington, D.C.

TABLE XI

RETIREMENTS USN-USNR (INCLUDING NURSES) COMMENCING SEPT. 1947)
CALENDAR YEARS 1940 THROUGH SEPTEMBER 1949

	GRAND TOTAL	ADM	COVO	CAPT	COR	LCDR	LT	LTJC	ENS	CWO	HO
<u>Grand Total</u>	<u>8009</u>	<u>246</u>	<u>96</u>	<u>1588</u>	<u>934</u>	<u>1577</u>	<u>1370</u>	<u>946</u>	<u>451</u>	<u>559</u>	<u>244</u>
<u>Total Disability</u>	<u>6084</u>	<u>112</u>	<u>26</u>	<u>761</u>	<u>653</u>	<u>1074</u>	<u>1298</u>	<u>936</u>	<u>449</u>	<u>533</u>	<u>232</u>
1949 (to date)	275	4	2	42	33	60	60	48	13	18	5
1948	420	3	0	55	40	74	94	74	33	39	8
1940-1947	5399	106	34	664	580	950	1144	814	406	476	219
<u>Total Voluntary</u>	<u>1165</u>	<u>66</u>	<u>34</u>	<u>502</u>	<u>122</u>	<u>340</u>	<u>52</u>	<u>7</u>	<u>2</u>	<u>21</u>	<u>12</u>
1949 (to date)	124	9	2	72	7	31	5	0	0	0	0
1948	177	19	5	89	8	46	6	0	4	0	0
1940-1947	864	38	27	348	107	263	43	7	2	17	12
<u>Total Statutory</u>	<u>258</u>	<u>67</u>	<u>5</u>	<u>28</u>	<u>46</u>	<u>52</u>	<u>7</u>	<u>1</u>	<u>0</u>	<u>2</u>	<u>0</u>
1949 (to date)	10	4	0	2	1	2	0	0	0	1	0
1948	15	4	1	5	1	4	0	0	0	0	0
1940-1947	233	59	4	71	44	46	7	1	0	1	0
<u>Total Involuntary</u>	<u>286</u>	<u>9</u>	<u>12</u>	<u>189</u>	<u>57</u>	<u>27</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
1949 (to date)	135	0	13	118	1	3	0	0	0	0	0
1948	0	0	0	0	0	0	0	0	0	0	0
1940-1947	151	0	0	71	55	24	0	0	0	0	0
<u>Public Law 810 (a)</u>											
1949 (to date)	216	2	2	51	56	84	13	2	0	2	0

(a) Applies to U. S. Naval Reserve Officers only.
Source: Navy Department, Bureau of Naval Personnel, Washington, D.C.

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TABLE XII

OFFICER RETIREMENTS AND RESIGNATIONS 1937 THRU SEPTEMBER 1949-BY CALENDAR YEAR
(INCLUDES NURSES COMMENCING SEPT. 1947) - BY TYPE OF RETIREMENT - USNR AND USN

	1949	48	47	46	45	44	43	42	41	40	39	38	37
<u>USN</u>													
<u>Retirements-Tot.</u>	417	423	1447	966	275	221	154	223	203	268	208	231	
Disability	156	235	884	609	253	198	191	108	122	120	92	91	71
Voluntary	116	173	411	319	12	0	7	18	31	33	122	89	93
Statutory	10	15	11	28	10	23	13	28	70	50	64	28	67
Involuntary	135	0	141	10									
<u>Resignations-Tot.</u>	820	680	1984	210	30	1	2	8	11	9	33	27	33
<u>Grand Total-USN</u>	1237	1103	3431	1676	305	222	213	162	234	212	301	235	264
<u>USNR</u>													
<u>Retirements-Tot.</u>	343	254	963	1189	425	226	95	34	2	3	1	8	0
Disability	119	185	943	1176	425	226	95	54					
Voluntary	8	4	20	13									
Statutory	0	0											
Involuntary	0	0											
Honorary	5	65											
Public Law	810	216											
<u>Resignations-Tot.</u>													
NOT APPLICABLE													
<u>USN & USNR TOTAL</u>	1585	1357	4394	2865	730	448	308	196	236	215	302	235	264

Source: Navy Department, Bureau of Naval Personnel, Washington, D.C.

TABLE XIII
VOLUNTARY RETIREMENTS
1945 THRU SEPTEMBER 1949

	GRAND TOTAL	ADM	COMO	CAPT	CDR	LIEUT	LTC	ENS	WARRANTS
Grand Total	<u>1082</u>	<u>65</u>	<u>34</u>	<u>499</u>	<u>114</u>	<u>322</u>	<u>27</u>	<u>2</u>	<u>6</u>
20 - 29 Years of Service									
Total	<u>505</u>	<u>9</u>	<u>11</u>	<u>283</u>	<u>23</u>	<u>112</u>	<u>5</u>	<u>1</u>	<u>6</u>
1949	<u>59</u>	<u>0</u>	<u>1</u>	<u>39</u>	<u>5</u>	<u>13</u>	<u>1</u>	<u>0</u>	<u>5</u>
1948	<u>89</u>	<u>0</u>	<u>0</u>	<u>61</u>	<u>7</u>	<u>17</u>	<u>2</u>	<u>0</u>	<u>0</u>
1947	<u>256</u>	<u>4</u>	<u>7</u>	<u>145</u>	<u>40</u>	<u>49</u>	<u>1</u>	<u>1</u>	<u>2</u>
1946	<u>101</u>	<u>5</u>	<u>3</u>	<u>38</u>	<u>20</u>	<u>33</u>	<u>1</u>	<u>0</u>	<u>2</u>
1945	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Over 30 Years of Service									
Total	<u>577</u>	<u>56</u>	<u>23</u>	<u>216</u>	<u>41</u>	<u>210</u>	<u>22</u>	<u>1</u>	<u>9</u>
1949	<u>65</u>	<u>9</u>	<u>2</u>	<u>23</u>	<u>2</u>	<u>17</u>	<u>2</u>	<u>1</u>	<u>0</u>
1948	<u>88</u>	<u>19</u>	<u>5</u>	<u>28</u>	<u>1</u>	<u>29</u>	<u>4</u>	<u>0</u>	<u>2</u>
1947	<u>182</u>	<u>10</u>	<u>12</u>	<u>84</u>	<u>13</u>	<u>63</u>	<u>3</u>	<u>0</u>	<u>0</u>
1946	<u>231</u>	<u>18</u>	<u>4</u>	<u>69</u>	<u>24</u>	<u>97</u>	<u>10</u>	<u>0</u>	<u>5</u>
1945	<u>11</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>1</u>	<u>4</u>	<u>3</u>	<u>0</u>	<u>1</u>

Source: Navy Department, Bureau of Naval Personnel, Washington, D.C.

TABLE XIV
TRANSFERS TO FLEET RESERVE

	AFTER 16 YEARS	AFTER 20 YEARS	TOTAL	PERCENT OF STRENGTH
1917	52	362	414	.5
1918	79	390	469	.3
1919	143	221	364	.2
1920	343	234	577	.4
1921	274	309	583	.5
1922	242	464	706	.7
1923	2,162	799	2,961	3.5
1924	292	173	465	.5
1925	395	288	683	.8
1926	638	499	1,137	1.4
1927	805	322	1,127	1.4
1928	639	288	927	1.1
1929	648	278	926	1.1
1930	833	338	1,171	1.4
1931	641	368	1,009	1.2
1932	419	418	837	1.0
1933	619	418	1,037	1.3
1934	1,251	532	1,783	2.3
1935	1,204	650	1,854	2.3
1936	1,688	469	2,157	2.5
1937	1,185	768	1,953	2.0
1938	946	1,221	2,167	2.1
1939	695	1,429	2,124	2.0
1940	311	848	1,159	.9
1941	NA *	NA	535	.3
1942	NA	NA	450	.2
1943	NA	NA	372	.1
1944	NA	NA	748	.2
1945	NA	NA	1,396	.4
1946	NA	NA	2,079	.5
1947	NA	NA	4,499	1.0
1948	NA	NA	3,807	1.0
1949	NA	NA	2,786	.8

Source: Navy Department, Bureau of Naval Personnel,
Washington, D.C.

* Not applicable.

TABLE XV
ENLISTED RETIRED FROM FLEET RESERVE AND REGULAR NAVY
BY REASON

FISCAL YEAR	F4C (16 YEAR MEN)		F4D-F5-F6 (20 YEAR MEN)		RETIRING FROM RES- ERVE	GRAND TOTAL
	Retired	Retired	Retired by on com- pletion of 30 years.	reason of physical disability.		
1950 through Nov. 1949	309	28	519	34	147	1037
1949	760	44	1160	108	195	2267
1948	452	77	717	176	184	1606
1947	495	81	776	208	135	1695
GRAND TOTAL	2016	230	3172	526	661	6605

Source: Navy Department, Bureau of Naval Personnel, Washington, D.C.

TABLE XVI
TOTAL MILITARY MONTHLY COMPENSATION BY EXPECTED
ENTRY YEAR. *

RATE/RANK PAY GRADE	EXPECTED ENTRY YEAR	PAY	ALLOW- ANCES	TOTAL PAY	PLUS LON- GEV- ITY	MAX- IMUM PAY
E-1	0	\$ 80.00	\$ 76.50	\$156.50	\$ 15.00	\$171.50
E-2	1	82.00	76.50	158.50	38.00	196.50
E-3	1	95.00	76.50	171.50	52.00	223.50
E-4	3	124.00	76.50	200.50	67.00	267.50
E-5	7	161.00	99.00	260.00	66.00	326.00
E-6	11	198.00	99.00	297.00	51.00	348.00
E-7	15	242.00	99.00	341.00	52.00	393.00
W-1	10	232.00	117.00	349.00	66.00	415.00
W-2	14	283.00	124.50	407.50	66.00	473.50
W-3	20	349.00	132.00	481.00	43.00	524.00
W-4	26	451.00	147.00	598.00	14.00	612.00
O-1	0	213.00	117.00	330.00	100.00	430.00
O-2	3	263.00	124.50	387.50	86.00	473.50
O-3	7	342.00	132.00	474.00	99.00	573.00
O-4	13	427.00	147.00	574.00	86.00	660.00
O-5	19	527.00	162.00	689.00	57.00	746.00
O-6	25	641.00	162.00	803.00	47.00	850.00
O-7	30	826.00	192.00	1018.00	-----	1018.00
O-8	30	954.00	192.00	1146.00	-----	1146.00

* Excludes clothing allowances to enlisted grades and
special allowances to Flag Officers.

Source: Advisory Commission on Service Pay.

TABLE XVII

MONTHLY PAY SCALES FOR POSITIONS OF
 COMPARABLE RESPONSIBILITY HELD BY
 CIVILIAN & MILITARY PERSONNEL.

MILITARY PAY GRADE	MILITARY RANGE OF COMPENSATION	CIVILIAN RANGE OF COMPENSATION
E-1	\$156.50 to \$171.50	No comparable position.
E-2	158.50 196.50	\$125.00 to \$250.00
E-3	171.50 223.50	135.00 260.00
E-4	200.50 267.50	225.00 300.00
E-5	260.00 326.00	240.00 325.00
E-6	297.00 348.00	245.00 345.00
E-7	341.00 393.00	360.00 385.00
W-1	349.00 415.00	No comparable position.
W-2	407.50 473.50	No comparable position.
W-3	481.00 524.00	No comparable position.
W-4	598.00 612.00	No comparable position.
O-1	330.00 430.00	No comparable position.
O-2	387.50 473.50	\$250.00 to \$700.00
O-3	474.00 573.00	375.00 700.00
O-4	574.00 660.00	400.00 1000.00
O-5	689.00 746.00	375.00 1700.00
O-6	803.00 850.00	500.00 1900.00
O-7	1018.00 1018.00	1250.00 2300.00
O-8	1146.00 1146.00	2000.00 3300.00

Source: Advisory Commission on Service Pay.

TABLE XVIII
NAVAL OFFICER ATTITUDES¹
ON RETIREMENT PLANS

RETIREMENT INTENTION	PERCENTAGE OF TECHNICAL OFFICERS	PERCENTAGE OF GENERAL LINE OFFICERS
Plan to retire on 20 year option	24.00	22.00
Plan to retire on 30 year option	23.00	27.00
Plan to retire at retirement age	13.00	16.00
Leaving before retirement	7.00	4.00
Not decided yet	28.00	26.00
Other-did not answer	5.00	5.00
	100.00	100.00

1. Survey conducted in 1948 on all Naval ships and stations and covered all ranks and corps. A statistically reliable sample of 4442 cases was obtained.

Source: Officer Attitudes, Navy Department, Bureau of Naval Personnel July, 1949.

TABLE XIX

COMPARABLE PROVISIONS OF
CIVIL SERVICE RETIREMENT
FISCAL YEAR 1950

Year Plan Established	1920
Number of Employees in Executive Branch	2,050,617
Number Covered by Retirement Act.*	1,775,000
Number of Annuitants	143,379
Survivor Annuitants	11,057
Participation Requirements	Five Years Service
Mandatory Retirement	Age 70
Early Retirement	Age 60 and 30 years service Age 62 and 15 years service Age 55 and 30 years service
Vesting	(a) After 25 years service reduced annuity. (b) After 5 years service reduced annuity payable age 62.
Contributions by Employees.	6% of basic pay.
Disability	After 5 years service retired in accordance with formula.
Benefit Formula	1½% of average annual basic pay for the highest 5 consec- utive years times years of service.

* Post Office Employees have own Retirement Act.

Source: U.S. Civil Service Commission, Retirement Division,
Washington, D. C.

TABLE XX

COST OF CIVIL SERVICE
RETIREMENT PLAN
FISCAL 1950

Payroll for Employees in Executive Branch	\$5,863,500,000
Funds for Retirement	267,000,000
Percent of Payroll	4.55%

Source: Civil Service Commission, Retirement Division,
Washington, D.C.

TABLE XXI
CIVIL SERVICE RETIREMENTS
BY RETIREMENT PROVISION
FISCAL YEAR 1947

YEARS OF SERVICE	TOTAL	PROVISION UNDER WHICH RETIRED	SECTION
		OPTIONAL AND MANDATORY	7 *
5 - 9	13.1%	-	54.6%
10 - 14	8.7	-	23.8
15 - 19	13.1	11.2%	10.3
20 - 24	13.0	11.9	6.3
25 - 29	14.7	16.6	3.3
30 - 34	19.9	30.8	1.2
35 - 39	10.7	17.7	.4
40 - 44	5.0	8.6	.1
45 - 49	1.4	2.5	-
50 & Over	.4	.7	-
TOTAL	100.0	100.0	100.0

* Includes voluntary and involuntary separations not eligible under the optional provisions. Not eligible for survivor benefits.

Source: U.S.Civil Service Commission, Retirement Division, Washington, D.C.

TABLE XXII
CIVIL SERVICE INVOLUNTARY REDUCTIONS
FISCAL YEARS 1945 - 1949

FISCAL YEAR	REDUCTIONS IN FORCE	REMOVALS FOR CAUSE
1945	66,591	207,856 *
1946	603,593	108,141 *
1947	388,205	25,459
1948	98,616	14,452
1949	53,748	12,516

* Not comparable with later years, due to the inclusion in all of 1945 and part of 1946 of "abandonment of position" as a removal for cause.

Source: Civil Service Commission, Retirement Division,
Washington, D.C.

TABLE XXIII
CIVIL SERVICE
GENERAL PAY SCHEDULE

GRADE	ENTRANCE SALARY	PERIODIC INCREASE	MAXIMUM SALARY
1	\$ 2,200.	\$ 80.	\$ 2,680.
2	2,450.	80.	2,930.
3	2,650.	80.	3,130.
4	2,875.	80.	3,355.
5	3,100.	125.	3,850.
6	3,450.	125.	4,200.
7	3,825.	125.	4,575.
8	4,200.	125.	4,950.
9	4,600.	125.	5,350.
10	5,000.	125.	5,750.
11	5,400.	200.	6,400.
12	6,400.	200.	7,400.
13	7,600.	200.	8,600.
14	8,800.	200.	9,800.
15	10,000.	250.	11,000.
16	11,200.	200.	12,000.
17	12,200.	200.	13,000.
18	14,000.	---	14,000.

Source: U.S. Civil Service Commission,
Washington, D.C.

TABLE XXIV
CIVIL SERVICE
CRAFTS, PROTECTIVE AND CUSTODIAL PAY SCHEDULE

GRADE	ENTRANCE SALARY	PERIODIC INCREASE	MAXIMUM SALARY
1	\$1,510.	\$ 60.	\$1,870.
2	2,120.	70.	2,540.
3	2,252.	80.	2,732.
4	2,450.	80.	2,930.
5	2,674.	80.	3,164.
6	2,900.	80.	3,380.
7	3,125.	100.	3,725.
8	3,400.	125.	4,150.
9	3,775.	125.	4,525.
10	4,150.	125.	4,900.

Source: U. S. Civil Service Commission,
Washington, D. C.

TABLE XXV
CIVIL SERVICE ANNUITIES
COMPUTED UNDER BASIC FORMULA

HIGHEST 5 YEAR AVERAGE SALARY	YEARS SERVED					
	5	10	15	20	25	30
\$ 500.	\$ 150.	\$ 300.	\$ 400.	\$ 400.	\$ 400.	\$ 400.
1,000.	175.	350.	525.	700.	800.	800.
1,500.	200.	400.	600.	800.	1,000.	1,200.
2,000.	225.	450.	675.	900.	1,125.	1,350.
2,500.	250.	500.	750.	1,000.	1,250.	1,500.
3,000.	300.	600.	900.	1,200.	1,500.	1,750.
3,500.	325.	650.	975.	1,300.	1,625.	1,950.
4,000.	375.	750.	1,125.	1,500.	1,875.	2,250.
5,000.	663.	1,125.	1,688.	2,250.	2,813.	3,375.
7,500.	750.	1,500.	2,250.	3,000.	3,750.	5,938.
10,000.						5,250.
						6,750.

Source: U. S. Civil Service Commission, Retirement Division,
Washington, D. C.

TABLE XXVI
CIVIL SERVICE SURVIVORSHIP
REDUCED ANNUITY PLAN *

AGE OF SURVIVOR ANNUITANT IN RELATION TO EMPLOYEE AGE	PERCENTAGE OF FULL RATE DUE EMPLOYEE
Older, same age, or less than 5 years younger.	90.00
Five, but less than 10, years younger.	85.00
Ten, but less than 15, years younger.	80.00
Fifteen, but less than 20, years younger.	75.00
Twenty, but less than 25, years younger.	70.00
Twenty-five or more years younger.	60.00

* Survivor's rate of annuity is of full rate due
employee and begins at survivor age 50.

Source: U.S. Civil Service Commission, Retirement
Division, Washington, D.C.

TABLE XXVII

CIVIL SERVICE SURVIVOR BENEFITS *
AFTER COMPLETION OF 5 YEARS SERVICE
DEATH WHILE IN SERVICE

DECEASED EMPLOYEE	SURVIVOR	ANNUITY BEGINS	AMOUNT OF ANNUITY	ANNUITY ENDS
Married Men	Widow Only	At age 50, or immediately upon employee death if widow is past 50.	One half of the annuity which would have been due the employee at time of death.	At death or remarriage whichever is earlier.
Married Men	Widow and Children	Immediately	To Widow: One half of annuity payable to em- ployee at death. To each child: (a) At $\frac{1}{2}$ of annuity due employee. (b) \$900. divided by surviving children, or (c) \$360. whichever is least.	To Widow: At death or remarriage. At death, marriage or age 18, whichever is earliest.
Widow or Widower	Children Only	Immediately	To each child: (a) $\frac{1}{2}$ annuity due employee. (b) \$1200. divided by child- ren, or (c) \$480. whichever is least.	At death, mar- riage or age 18 whichever is earliest.
Married Women		SAME AS MARRIED MEN		

* Independent of Survivorship Reduced Annuity Plan.
Source: U. S. Civil Service Commission, Retirement Division, Washington, D.C.

TABLE XXVIII

CIVIL SERVICE SURVIVOR BENEFITS (a, b)
DEATH AFTER RETIREMENT

DECEASED ANNUITANT	SURVIVOR	ANNUITY BEGINS	AMOUNT OF ANNUITY	ANNUITY ENDS
Married Man	Widow Only		NO PROVISION. HOWEVER, if the widow was named survivor-annuitant under "Reduced-annuity survivor benefits" plan, annuity benefits begin when she reaches age 50.	
Married Man	Widow and Children	Immediate- ly	To Widow: One half her husband's annuity. To each child: (a) $\frac{1}{2}$ father's annuity (b) \$900. divided by sur- viving children (c)\$360. whichever is least.	To death, marriage or age 18. At death, marriage or age 18. At death, marriage or age 18.
Widow or Widower	Children	Immediate- ly	To each child: (a) $\frac{1}{2}$ parent's annuity (b) \$1200. divided by sur- viving children or (c) \$480. whichever is least.	
Married Woman			SA ME AS MARRIED MAN.	

a. All conditions except discontinued service after 5 years.

b. Independent of reduced annuity survivor benefits plan.

Source: U.S. Civil Service Commission, Retirement Division, Washington, D.C.

TABLE XXIX
CIVIL SERVICE
LUMP SUM DEATH PAYMENTS¹

DECEASED PERSON	AMOUNT OF PAYMENT	WHEN PAYMENT MAY BE MADE
Employee leaving no widow or children entitled to immediate or future annuity.	Total contributions with interest less the aggregate amount of annuity, if any, paid to all survivors.	Upon death of employee.
Employee leaving a widow and/or children entitled to immediate or future annuity.	Total contributions with interest less the aggregate amount of annuity paid the retired employee.	Upon death of the retired employee.
Retired employee leaving no widow, children or other survivor entitled to immediate or future annuity.	Total contributions with interest less the aggregate amount paid in annuities to retired employees and all survivors.	Upon termination of last survivor's right to any further annuity payments.
Retired employee leaving a widow, children or other survivor entitled to immediate or future annuity.	Total contributions with interest less the aggregate amount paid in annuities to retired employees and all survivors.	Upon termination of last survivor's right to any further annuity payments.

1. Independent of reduced annuity survivor benefits plan.

Source: U.S. Civil Service Commission, Retirement Division, Washington, D.C.

TABLE XXX

INDUSTRIAL PARTICIPATION
ELIGIBILITY REQUIREMENTS

REQUIREMENTS	NUMBER OF PLANS	PERCENT OF PLANS
None	37	12.8
Age Only	7	2.4
Service Only	101	35.0
Age and Service	144	49.8
TOTAL	289	100.0

Source: Bankers Trust Company, New York.

TABLE XXXI
INDUSTRIAL PARTICIPATION ELIGIBILITY
AGE AND SERVICE REQUIREMENTS

SERVICE REQUIREMENTS	NUMBER OF PLANS BY AGE REQUIREMENTS			
	NO AGE	AGE 25 & UNDER	AGE 30	AGE 35
None	37	2	4	1
1 Year	34	9	18	8
2 Years	7	2	10	4
3 Years	17	7	10	5
4 Years	1	-	1	-
5 Years	42	8	37	24
Special	--	--	1	--
TOTAL	138	28	81	42

Source: Bankers Trust Company, New York.

TABLE XXXII
INDUSTRIAL
NORMAL RETIREMENT AGE

NORMAL RETIREMENT AGE	NUMBER OF PLANS	PERCENT OF PLANS
65	281	97.3
60	5	1.7
70	3	1.0
TOTAL	289	100.0

Source: Bankers Trust Company, New York.

TABLE XXXIII
INDUSTRIAL
EARLY RETIREMENT PROVISIONS

EARLY RETIREMENT PROVISIONS		NUMBER OF PLANS	PERCENT OF PLANS
(1) Permitted only with company's consent			
(a) After employee attains an age	90		
(b) After he completes a period of service	2		
(c) After he attains an age and completes a period of service	47		
(d) Anytime	18	157	54.3%
(2) Permitted at employee's election			
(a) after he attains an age	37		
(b) after he completes a period of service	2		
(c) after he attains an age and completes a period of service	45	84	29.1
(3) Permitted only on disability or hardship		35	12.1
(4) No provision		2	0.7
(5) Information not complete		11	3.8
TOTAL		289	100.0%

Source: Bankers Trust Company, New York.

TABLE XXXIV
INDUSTRIAL
VESTING PROVISIONS

VESTING PROVISIONS	NUMBER OF PLANS	PERCENT OF PLANS
No Vesting	69	23.9%
Vesting on completion of a period of service		
15 years or less	41	
20 years or more	<u>17</u>	58
Vesting on attainment of an age		
Age 50	1	
55	17	
60	<u>21</u>	39
		13.5
Vesting on completion of service usually 10 to 20 years and the attainment of an age		
Age 45 or less	21	
50	11	
55	53	
60	<u>17</u>	102
		35.3
Immediate vesting without an age or service requirement	10	3.5
Vesting only on layoff	7	2.4
Data not complete	4	1.4
TOTAL	289	100.0%

Source: Bankers Trust Company, New York.

TABLE XXXV
INDUSTRIAL
EMPLOYEE CONTRIBUTIONS

METHOD	NUMBER OF PLANS	PERCENT OF PLANS
No employee contributions	137	47.4%
Voluntary employee contributions	7	2.4
Employee contributions only on earnings over \$3,000 per year	8	2.8
Employee contributions on earnings both under and over \$3,000.	137	47.4
TOTAL	289	100.0%

Source: Bankers Trust Company, New York.

TABLE XXXVI
INDUSTRIAL PENSION BENEFITS INCLUDING ¹
PRIMARY SOCIAL SECURITY BENEFITS *

PENSION INCLUDING SOCIAL SECURITY AS PERCENTAGE OF AVERAGE COMPENSATION	PERCENTAGE OF PLANS IN EACH BENEFIT CATEGORY				
	AVERAGE ANNUAL COMPENSATION	\$1,200	\$3,000	\$5,000	\$15,000
Under 35%	3.9%	5.5%	12.9%	35.2%	
35% to 40%	---	7.0	9.0	6.2	
40% to 45%	2.0	37.5	41.4	23.8	
45% to 50%	15.6	10.2	18.8	20.3	
50% to 55%	9.4	32.8	11.7	3.9	
55% to 60%	26.2	2.7	3.5	9.0	
60% to 65%	31.6	2.3	1.5	0.8	
65% and over	11.3	2.0	1.2	0.8	
	100.0%	100.0%	100.0%	100.0%	

1. Based on 30 years Future Service after eligibility for participation and expressed as a percentage of average annual compensation.

* Primary Social Security Benefits alone provide the following pensions:

Average Annual Compensation			
\$1200	\$3000	\$5,000	\$15,000
32.5%	20.8%	12.5%	4.2%

The difference between these figures and the figures shown in the table represents benefits provided by the respective plans.

Source: Bankers Trust Company, New York.

TABLE XXXVII
NUMBER OF INDUSTRIAL EMPLOYEES
IN 612 COMPANIES SURVEYED IN 1947

NUMBER OF EMPLOYEES	TOTAL COMPANIES	PERCENTAGE
Under 100	39	6.4%
100-- 249	55	9.0
250-- 499	43	7.0
500-- 999	55	9.0
1,000-- 4,999	191	31.2
5,000-- 9,999	71	11.6
10,000--14,999	33	5.4
15,000--19,999	14	2.3
20,000--24,999	14	2.3
25,000--49,999	13	2.1
50,000 and over	22	3.6
Information not obtained	62	10.1
TOTALS	612	100.0%

Source: O'Neil, Hugh. Modern Pension Plans, 1947.

TABLE XXXVIII
INDUSTRIAL VESTING BENEFITS

TYPE OF PROVISION	COMPANIES	PERCENTAGE
Plans with deferred vesting	424	72.4%
Plans with immediate vesting	37	6.3
Plans with no vesting	98	16.7
Information not obtained	27	4.6
TOTAL	586 *	100.0%

* 26 combination plans have not been used in this table.
Percentages therefore, have been computed on the basis
of 586 plans rather than 612 as shown in Table XXXVII.

Source: O'Neill, Hugh. Modern Pension Plans, 1947.

TABLE XXXIX
INDUSTRIAL EARLY RETIREMENT

PROVISION	COMPANIES	PERCENTAGE
With company consent	388	77.6%
At employee's election	83	16.6
At election of company or employee	14	2.8
Information not obtained	15	3.0
TOTAL	500*	100.0%

* 112 plans not having any specific early retirement have not been used in this table. Percentages, therefore have been computed on the basis of 500 plans rather than 612 as shown in Table XXXVII.

Source: O'Neil, Hugh. Modern Pension Plans, 1947.

TABLE XL
INDUSTRIAL EARLY RETIREMENT
PENSION BENEFITS PROVIDED

BENEFIT	COMPANIES	PERCENTAGE
Actuarial equivalent of normal pension, payment immediate.	446	89.2%
Actuarial equivalent of normal pension, payment immediate or the pension accrued to early retirement date, payment deferred to normal retirement age.	37	7.4
Others	6	1.2
Information not obtained	11	2.2
TOTAL	500	100.0%

Source: O'Neil, Hugh. *Modern Pension Plans, 1947.*

TABLE XLI

NUMBER OF INDUSTRIAL PLANS
WITH EARLY RETIREMENT PROVISIONS

TYPE OF PROVISION	COMPANIES	PERCENTAGE
Plans having specific early retirement provisions.	500	81.7%
Plans having early retirement for disability only.	26	4.2
Plans allowing early retirement but no further information obtained.	8	1.3
Plans having no early retirement	78	<u>12.7</u>
TOTAL	612	100.0%

Source: O'Neil, Hugh. Modern Pension Plans, 1947.

TABLE XLII
INDUSTRIAL SERVICE REQUIREMENTS
FOR PARTICIPATION ELIGIBILITY

REQUIREMENTS	COMPANIES	PERCENTAGE
1 month	2	0.3%
3 months	5	0.8
6 months	26	4.2
1 year	180	29.4
2 years	67	10.9
3 years	70	11.4
4 years	10	1.6
5 years	155	25.3
Others	21	3.4
No service requirement	67	10.9
Information not obtained	9	1.5
TOTAL	612	100.0%

Source: O'Neil, Hugh. Modern Pension Plans, 1947.

TABLE XLIII

YEAR PLAN ESTABLISHED, NUMBER OF PARTICIPANTS
AND EARLY RETIREMENT PROVISIONS OF
12 COMPANY SURVEY IN 1950.

COMPANY	YEAR PLAN ESTAB- LISHED	NUMBER OF EMPLOYEES PARTICI- PATING	EARLY RETIREMENT	
			AGE	SERVICE
American Telephone & Telegraph Co.	1913	25,000	55 55-	25 30
E. I. Dupont de Nemours & Co.	1904	74,000	60	30
Eastman Kodak	1928	44,000	55	20
General Electric	1912	196,798	60	NONE
General Foods	1934	16,038	55	NONE
Greyhound Corp.	1941	24,506	drivers 50 others 55	NONE
International Business Machines	1945	18,856	NONE	NONE
S. S. Kresge	1941	35,810	53	NONE
Commonwealth Edison Co.	1912	17,900	NONE	NONE
Standard Oil of New Jersey	1903	41,000	55	NONE
United Air Lines	1941	9,802	flight 50 others 55	NONE
U. S. Rubber Co.	1917	53,572	55	20

TABLE XLIV
RETIREMENT AND PARTICIPATION ELIGIBILITY
12 COMPANY SURVEY IN 1950

COMPANY	ELIGIBILITY FOR RETIREMENT		PARTICIPATION ELIGIBILITY REQUIREMENTS
	AGE	SERVICE	
American Telephone & Telegraph Co.	60	20	NONE
E. I. Dupont de Nemours & Co.	65	15	NONE
Eastman Kodak	65	20	NONE
General Electric	65	NONE	1 year service
General Foods	65	NONE	1 year service
Greyhound Corp.	60 drivers 65 others	NONE	2 years service
International Business Machines	65	10	NONE
S. S. Kresge	63	NONE	6 years service and age 35
Commonwealth Edison Co.	65	NONE	NONE
Standard Oil of New Jersey	65	NONE	NONE
United Air Lines	60 flight 65 others	NONE	1 year service and age 30 non-pilots; age 25 pilots.
U. S. Rubber Co.	65	20	NONE

TABLE XLV

DISABILITY, SURVIVORSHIP AND CONTRIBUTORY
PROVISIONS OF 12 COMPANY SURVEY IN 1950

COMPANY	DISABILITY	SURVIVOR ANNUITY	EMPLOYEE CONTRIBUTIONS
American Telephone & Telegraph Co.	15 years service	None	None
E.I. Dupont de Nemours & Co.	15 years service	None	None
Eastman Kodak	15 years service	Reduced Benefits	None
General Electric	15 years service	Reduced Benefits	2% of first \$3000. plus 5% of excess during any year.
General Foods	None	Reduced Benefits	First \$50. None Next \$200. 4% Over \$250. 6%
Greyhound Corp.	15 yrs. age 45 20 yrs. age 40	Reduced Benefits	2% of annual earnings.
International Business Machines	10 years service	Separate Plan for Dependents	None
S.S. Kresge	None	Reduced Benefits	From $\frac{1}{2}\%$ to $4\frac{1}{2}\%$ of monthly earnings
Commonwealth Edison Co.	Adjusted Annuity	None	None
Standard Oil of N.J.	None	Reduced Benefits	$1\frac{1}{2}\%$ to $2\frac{1}{2}\%$ of earnings
United Air Lines, INC.	None	Reduced Benefits	Pilots: $4\frac{1}{2}\%$ of \$3000. plus 9% of excess. Others: $3\frac{1}{2}\%$ of \$3000. plus 6% of excess.
U.S. Rubber Co.	20 years service	None	None

TABLE XLVI

VESTING PROVISIONS OF
12 COMPANY SURVEY IN 1950

COMPANY	VESTING
American Telephone & Telegraph Co.	None
E. I. DuPont de Nemours & Co.	None
Eastman Kodak	Eligible for annuity upon completion of 20 years service.
General Foods	10 years service. Annuity payable at 65
General Electric	Age 50 and 20 years service receive pension at age 60.
Greyhound Corp.	5-10 years. 1/4 of company contributions 10-15 years. 1/2 of company contributions 15-20 years. 3/4 of company contributions 20 years. All of company contributions plus own contributions to receive annuity at age 65.
International Business Machines	None
S. S. Kresge Co.	5 years service. Pension age 63
Commonwealth Edison Co.	None
Standard Oil of New Jersey	Retains all annuities purchased on his behalf.
United Air Lines	age 45 and 10 years. Annuity payable at 60 for pilots and 65 for others.
U. S. Rubber Co.	None

TABLE XLVII
BENEFIT FORMULA PROVISIONS OF
12 COMPANY SURVEY IN 1950

COMPANY	BENEFIT FORMULA
American Telephone & Telegraph Co.	1% of average annual pay of 10 years prior to retirement times years of service.
E. I. Dupont de Nemours & Co.	1% of average annual pay of 10 years prior to retirement times years of service.
Eastman Kodak	1% of total earnings plus 1% of earnings in excess of \$3000 in any year plus $\frac{1}{2}\%$ of excess of \$10,000 in any one year.
General Electric	40% annually of aggregate employee contributions.
General Foods	Averages 25% of contributions per year.
Greyhound Corporation	1% of annual earnings times years of service.
International Business Machines	Flat sum based on service only. From \$60. to \$225. monthly.
S. S. Kresge	Based on earnings times years of service.
Commonwealth Edison Co.	2% of annual earnings times years of service.
Standard Oil of N. J.	Monthly amount based on earnings times years of service.
United Air Lines	1% of annual earnings under \$3000. plus 2% of excess times years of service.
U. S. Rubber	1% of average annual earnings times years of service.

TABLE XLVIII

 PENSION BENEFITS INCLUDING PRIMARY
 SOCIAL SECURITY BENEFITS OF 12 PLAN
 SURVEY, MILITARY AND CIVIL SERVICE

ORGANIZATION	PERCENTAGE OF AVERAGE ANNUAL COMPENSATION			
	\$1200.	\$3000.	\$5000.	\$15,000.
A. T. & T.	62.5	50.8	42.5	34.2
Dupont	33.5	30.0	30.0	30.0
Kodak	62.5	50.8	54.5	55.0
General Electric	56.5	44.8	50.9	57.0
General Foods	55.0	59.2	58.6	64.2
Greyhound	62.5	50.8	42.5	34.2
IBM (a)				
Kresge	73.0	62.2	58.9	60.9
Commonwealth Edison	60.0	60.0	60.0	60.0
Standard Oil(N.J.)	66.1	61.1	58.6	55.0
United Air Lines	62.5	50.8	54.5	58.2
U.S. Rubber Co.	46.2	40.4	36.2	32.1
Civil Service	80.0	55.0	45.0	45.0
Military				
Officers (b)	60.6	60.6	60.6	60.6
Enlisted (c)	56.1	56.1	56.1	56.1

(a) IBM plan is as follows:

25 years service	\$117.00 per month
30	144.00 per month
35	171.00 per month
40	198.00 per month
45	225.00 per month

(b) Officers benefits based at 2.02% per year based on total pay. 30 years used in determining percentage.

(c) Enlisted personnel benefits based at 1.87% per year on total pay. 30 years used in determining percentage.

TABLE XLIX

ANNUAL COST OF RETIREMENT PLANS ¹
 IN 12 COMPANY SURVEY IN RELATION
 TO ANNUITANTS AND PAYROLL

COMPANY	ANNUITANTS	COST PER YEAR	PERCENTAGE OF PAYROLL
A. T. & T.	1031	\$1,650,000	2.00%
Dupont	3000	*	*
Kodak	1500	*	*
General Electric	9788	6,841,000	1.00
General Foods	700	*	*
Greyhound Corp.	269	103,512	.00132
IBM	164	2,500,000	2.70
Kresge	180	1,012,679	2.13
Commonwealth Edison	1454	1,897,300	2.60
Standard Oil (N.J.)	3500	*	*
United Air Lines	28	*	2.00
U.S. Rubber	2078	1,071,301	.50

* Information not available.

1. Cost per year does not necessarily have any relation to payroll or number of annuitants. Plans are actuarily funded based on future contingent liabilities and funds are obligated to meet contingencies.

TABLE L
AMERICAN EXPERIENCE TABLE OF MORTALITY

AGE	NUMBER LIVING	NUMBER DYING
10	100,000	749
11	99,251	746
12	98,505	743
45	74,173	822
46	73,345	848
92	216	137
93	79	58
94	21	18
95	3	6

Source: O'Neil, Hugh. Modern Pension Plans, 1947.

TABLE LI
COMBINED ANNUITY MORTALITY TABLE.

AGE			
MALES	FEMALES	NUMBER LIVING	NUMBER DYING
10	14	100,000	153
11	15	99,847	157
12	16	99,690	161
92	96	2,538	671
93	97	1,867	529
94	98	1,338	405
95	99	933	302
105	109	3	2
106	110	1	1

Source: O'Neill, Hugh. Modern Pension Plans, 1947

TABLE LII

SOCIAL SECURITY BENEFITS TO WORKER & WIFE AGE 65 *
(to the nearest dollar)

YEARS OF COVERAGE	AVERAGE MONTHLY WAGE						
	\$50.	\$100.	\$125.	\$175.	\$200.	\$225.	\$250.
5	31	39	43	51	55	59	63
6	32	40	43	52	56	60	64
7	32	40	44	52	56	60	64
8	32	40	45	53	57	61	65
9	33	41	45	53	57	61	65
10	33	41	45	54	58	62	66
11	33	42	46	54	58	62	66
12	34	42	46	55	59	63	67
13	34	42	47	55	59	64	67
14	34	43	47	56	60	64	68
15	34	43	47	56	60	65	69
16	35	43	48	57	61	65	70
17	35	44	48	57	61	66	70
18	35	44	49	58	62	66	71
19	36	45	49	58	62	67	71
20	36	45	49	58	63	67	72
21	36	45	50	59	64	68	73
22	37	46	50	59	64	69	73
23	37	46	51	60	65	69	74
24	37	46	51	60	65	70	74
25	37	47	52	61	66	71	75
26	38	47	52	61	66	71	76
27	38	48	52	62	67	72	76
28	38	48	53	62	67	72	77
29	39	48	53	63	68	73	77
30	39	49	54	63	68	73	78
35	40	50	56	66	71	76	81
40	42	53	58	68	74	79	84
45	44	54	60	71	76	82	85

* One third less for single worker.

Source: O'Neil, Hugh. Modern Pension Plans, 1947.

DISCUSSION OF RESULTS

Prior to discussion of comparable provisions as found in the several types of retirement systems, it is considered desirable to call attention to the non-comparable provisions of the military plan, inasmuch as those provisions affect the operation of the plan and illustrate unique functions such as attrition in rank, dual benefit percentages, severance benefits, lack of mandatory retirement age for enlisted personnel and other provisions. Appendix A contains a brief outline of the military retirement system.

Participation Eligibility. This provision is not strictly comparable inasmuch as the military plan is not actuarially funded on the basis of future service, but operates similarly to a trust fund plan wherein annuitants are paid from a trust fund established for that purpose. The military annuitants are paid from current appropriations. There is no necessity of establishing participation requirements in the trust fund type of plan as there are no costs incurred due to turnover of personnel. Further, the lack of vesting rights in the military plan obviates any necessity of funding for past service. In view of the desirability of vesting, the participating eligibility requirements of the plans studied are shown in Tables 6, 19, 30, 31, 42 and 44. The effect of such provisions is to reduce the costs resulting from turnover when an insured plan is used. The great majority of plans studied have some sort of require-

ment ranging all the way from 1 month's service to 6 years' service with or without age requirements. The two most popular service requirements are 1 year and 5 years whereas the "no age" provision is the most popular.

Retirement Eligibility. Tables 6, 19, 33 and 44 present the data obtained on this provision. The service requirements vary all the way from None to 45 years. The age requirements vary from None to age 70. In plans having no service requirements, the eligibility for retirement is based strictly on age and annuities computed according to earnings and years of service. It is obvious that in this type of plan it is possible to arrive at a very low annuity if length of service is low.

In plans where service is the eligibility factor, the minimum pension is considerably higher. However, most plans use a combination of age and service; the most popular combination being age 65 and 20 years service. The primary purpose of such requirements are to eliminate costs of turnover in an insured plan and also to provide a reasonable pension at the lowest cost. It is evident that the expectancy of life at age 65 is much less than that at an earlier age; again, it should be noted that costs of turnover do not apply to a trust fund type plan such as the military plan.

It would seem that the determination of normal retirement age should depend on the conditions of employment as well as the geographical location of the work. Certainly,

it must be conceded that it is desirable to retire an airline pilot or a coal miner at an earlier age than a bank clerk or minister. Persons employed in unfavorable climates should be retired at an earlier age.

In like manner, military personnel subject to extended tours of duty in all parts of the world and frequently in relatively dangerous endeavors should be retired at an earlier age. The almost universal acceptance of age 65 as the normal retirement age has been largely the result of the Social Security Act, the benefits of which do not begin until age 65. The acceptance of this age has enabled the formulation of pension plans tying in with Social Security thus providing a larger annuity than would otherwise be available. In this connection, it is noted that military personnel do not receive the benefits of the Social Security Act.

Optional Retirement Age. Tables 6, 19, 21, 33, 40, 41 and 43 pertain to early retirement provisions in the several plans. The great majority of plans make some provision for early retirement with or without employer consent. The most popular practice is to reduce the normal retirement age by 10 years with or without service requirements.

In companies having no service requirement for normal retirement, a service requirement is usually incorporated for early retirement. The benefits received by the annuitant upon early retirement are usually the actuarial equivalent of the normal pension. The military plan considers 20 years

service as being early retirement with 30 years being the normal. However, the necessity of attrition in rank as outlined in Appendix A operates in such a manner as to make the 30 year option not so much a choice of the officer annuitant but rather the choice of the Military Selection Boards.

Contributory vs. Non-contributory Principle. This provision is perhaps the most controversial one in the entire field of retirement. Tables 19, 35, and 45 give data pertaining thereto. In actual practice the plans are about evenly divided. However, plans adopted in recent years indicate that there is somewhat of a trend towards the non-contributory type. The Bureau of Labor Statistics Bulletin 7946 reporting a study of collective bargaining plans in effect by mid-1948 states that most of these plans are financed entirely by the employer.

The advantages and disadvantages of employee contributions may be summarized briefly as follows:

Advantages:

- a. Increased benefits.
- b. Provides severance pay in the form of returned contributions.
- c. Makes employees cost conscious.
- d. Promotes solidarity or kinship between employer and employee.
- e. Reduces employer costs for a fixed amount of pension.

Disadvantages:

- a. The tax structure makes pensions cheaper to buy if employer pays all. Employee contributes from pay remaining after taxes, whereas employer contributes before taxes.

- b. Employee resistance to further payroll deductions and increased demands for wages.
- c. Additional administrative costs and re-valuation of requirements as to retirement age, participation and service.

There are no practically no industrial plans that are really non-contributory in principle due to the tie-in with Social Security which requires employee contributions. As stated earlier in this thesis the military plan is non-contributory and it was deemed advisable to retain that feature to avoid any additional costs. In the last analysis, it would seem that the most potent argument against employee contributions is the fact that it is the employer's money, in the form of a pay check, that the employee is forced to deposit and that deposit is his to take with him if he leaves the employ of the company.

If the "deferred wage" theory is taken into consideration, it can be argued that the entire controversy is irrelevant as it is the employee who pays anyway. A further discussion of this theory follows under the discussion of Vesting.

Disability. Due to the difficulty of properly administering disability plans and the possible great cost of such a provision, most companies do not incorporate extensive disability benefits in their retirement plans. This has the ultimate effect of leaving protection against this hazard largely on a self administered basis, if at all.

Tables 6, 10, 11, 12, 13, 15, 19, 21 and 45 indicate

the extent of disability protection in the several plans. Retirements for disability in the military are relatively high but when it is considered that we have just emerged from World War II and the fact that physical standards must necessarily be high for active duty, it can readily be seen that such a provision in the military plan is a necessity. The military plan provides for disability retirement at a rate determined by the percentage of disability whereas the industrial and Civil Service plans contemplate a reduced retirement benefit plan similar to early retirement. In this connection it is noted that many industrial plans allow early retirement only in case of disability. Details of military disability are shown in Appendix A.

Relative Costs. It is not proposed to enter into a discussion of the funding methods at this point. The technicalities and actuarial problems involved are beyond the scope of this thesis, however, it is interesting to note from Tables 7, 20, and 49 that military retirement costs are 4.6% of payroll, Civil Service 4.55% of payroll and industrial costs hover around 2%. The relatively small industrial sample available on this provision precludes the attachment of any significance to this percentage.

A further study of the tables will reveal that both the Military and Civil Service have a far greater number of annuitants than any industrial plan, in numbers or percentage-wise. The contributory features of some of the industrials

and Civil Service together with the fact that World War II occasioned a great increase in military disability retirement would tend to indicate that if similar conditions prevailed, the percentages would not differ so greatly. Such assumptions further indicate that the military plan is less expensive to the government than that of the Civil Service.

According to Fortune Magazine (5), the tax law presumes that a fair proportion of payroll is approximately 5%. The Continental Illinois National Bank and Trust Company of Chicago estimates that the normal cost of eligible payroll runs from 5% to 7%. In view of the above, it would seem that the military plan, general opinion to the contrary notwithstanding, is no more expensive than most industrial plans.

Survivor Benefits and Death Payments. Although the above terms are used practically synonymous and treated as such by most plans, there are some that have specific plans contemplating annuities to the survivors of the deceased as well as a lump sum payment. Tables 26, 27, 28, 29 and 45 illustrate certain provisions concerning survivorship benefits. The Civil Service has a very comprehensive program providing for reduced annuities to survivors as well as lump sum death payments.

The military provides only a lump sum payment of 6 months' basic pay with no provision to share in the retirement of the deceased. Of the 12 industrial plans studied for 1950, 7 provided reduced annuity plans similar to Civil

Service, one provided an entirely separate plan for dependents having no relation to the retirement benefits of the employee and 4 had no plans for dependents. Of course, any industrial contributory plan would allow for the return of the employee's contributions with interest. Most industries consider this feature an insurance problem and attempt to solve same by Group Insurance plans.

The lack of a military survivorship plan does not mean that the survivors of military personnel are left without any income other than that privately obtained through insurance. Other legislation, such as pensions for widows of veterans and dependent children of veterans would provide a relatively small income in most cases if all conditions of eligibility for this aid were met. In any event, dependents of military men whose sole service has been in peacetime would most likely be deprived of these benefits.

The survivors of military personnel cannot benefit from the Social Security Act which provides death payments and survivorship annuities. It seems rather incongruous for the Congress and other groups to view the military retirement as a form of "real income" or "deferred wage" when upon the death of the military person the retirement benefits cease to accrue to his dependents. A reduced annuity plan would allow the retired military person to receive a lower retirement amount than that which he would ordinarily receive, with the provision that upon his death, his dependents could

continue to receive all or a part of what he was receiving at time of retirement. The Civil Service plan and certain industrial plans provide sufficient precedence for such a change. Under present circumstances, the military retirement is tantamount to a life annuity with no refund provision or years certain period.

The principle of dependency is recognized in the military pay scale by providing larger allowances to personnel having dependents. Congress has provided for certain other dependency privileges in military hospitals, commissaries, exchanges and housing. The question may be raised as to why the principle of dependency is not recognized in the Military Retirement Plan.

Vesting. The purpose of vesting is to retain interest on the part of younger personnel; to assure them that their "rights" in the plan are not solely contingent upon remaining in service until normal retirement age; to dispel the fear that in case of job severance the benefits are not wholly lost. Tables 19, 34, 38 and 46 show conclusively that the great majority of plans have some sort of vesting provision. The most popular vesting provisions allow vesting rights upon completion of 10 to 15 years service with or without a qualifying age with a deferred pension. Some plans provide for gradual vesting with deferred annuity. I.E. 5 to 10 years service $\frac{1}{2}$ of expected normal annuity; 10 to 15 years service, $\frac{1}{3}$ of expected normal annuity; 15 to 20

providing new solutions to Pacific Northwest issues of maritime insurance rates, rates and rate data, ports, insurance law and the like. It is a task with considerable historical significance and the technical and political issues involved will continue to be a concern for the insurance industry.

Another area that will affect the insurance industry is the

ability of insurance companies to make

use of the technology of information systems and

communications to conduct the business of insurance more efficiently and effectively.

Another trend is the increasing emphasis on insurance products

and services and insurance products, in particular, are becoming

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years service, 3/4 of expected normal annuity; 20 years or more all of expected normal. Other plans provide for a cash payment or an immediate annuity in lieu of the deferred annuity. The Civil Service provides a deferred annuity for as little as 5 years service. The military has no vesting provision.

The vesting issue has met with considerable opposition due to the impression that vesting would encourage turnover. If the departing employee could voluntarily leave his employment and take a large sum of money with him as his vested share of a pension, turnover probably would be high but it is not too probable if the vested right takes the form of a deferred annuity. The deferred annuity could not be used until the normal retirement age has been reached and in most cases would be too small to provide an adequate income; in addition, most employees recognize that the longer the service the greater the pension.

In an insured type of plan, vesting would increase the cost of pensions inasmuch as turnover among younger personnel would have to be taken into consideration. However, this can be offset by setting up service requirements for participation eligibility as previously discussed.

The universal acceptance of vesting would greatly aid in the solution of the transferability problem which arises when employees shift from one company to another over their working years and find themselves with no pension other

than Social Security at retirement age. There are basically three ways of looking at pension costs. First, the equalization theory which holds that the employer offsets his contributions by reduced turnover, better morale, goodwill, increased efficiency and social contributions. The employee contribution or reduced income is offset by his retirement income.

Another view that the employer pays, is based on the theory that pension costs are additional operating expenses and not relieved by any measurable or intangible offsetting gains. A third view held by many economists and especially by labor leaders is that pension costs are actually deferred wages. These persons maintain that if pensions were not provided the employers would be able to pay higher wages.

The recent industrial disputes wherein pensions have become a matter for collective bargaining supports this contention. As far as the military is concerned, it is a well known fact, and can be verified by perusing the Congressional Record, that military compensation bills invariably consider the potential retirement of military personnel and consequently pay raises are not as high as they would be without retirement features available to the military.

The deferred wage theory puts the employees on a sound basis with the employer in that the thought of pensions as a gratuity are dispelled. The theory is actually becoming more and more a practice in the form of vesting, severance

benefits and other employee aids financial or otherwise which are now popular in industry. It is peculiar that there should be theoretical disagreement on this point when it is apparent that the practice is prevalent.

If the deferred wage theory is accepted, there is no point in continuing a fallacious argument against vesting. The only question remaining is how to properly include the provision in a retirement plan.

Benefits. To facilitate computations and for purposes of comparison, an arbitrary 30 year period of service was chosen on which to make calculations. The retirement amounts thus computed were taken as a percentage of compensation with the effect of Social Security included. A problem was encountered with the military percentage inasmuch as retirement is computed at $2\frac{1}{2}\%$ per year of basic pay times years of service rather than a percentage of total pay which includes allowances.

For example, a person in pay grade O-6 with 30 years service, would have a base pay of \$698.25 and allowances of \$160 or a total of \$858.25 monthly. Under the $2\frac{1}{2}\%$ method he would receive 75% of base pay or \$523.69; this amount is 60.8% of total pay or 2.02% per year. Pay grade E-7 having a base pay of \$294 plus allowances of \$99 or a total of \$393 would receive 75% of base pay or \$220.50; this amount is 56.1% of total pay or 1.87% per year.

In order to compare properly the military benefits, it was necessary to use 2.02% per year for officers and 1.87%

annually for enlisted personnel. Total percentage benefits for 30 years of 60.6% and 56.1% respectively.

Tables 5, 6, 17, 25, 36 47 and 48 show the retirement percentages of all plans. It will be observed that military pay grades O-6 and E-7 are the ones in which most military men retire, using 30 years service as a base. These two pay grades would have annual compensation including allowances of \$10,299 and \$4,716 respectively. Most industrial plans for incomes over \$5000 would provide a percentage between 35% and 50% averaging around 45%. Some, however, go as high as 65%. For incomes between \$3000 and \$5000 the percentages vary from 40% to 55% with the average around 50%. Civil Service percentage for these incomes is 45%. Thus it can be seen that military benefits are somewhat higher than Civil Service and most industrial plans.

Tables 16 and 17 supplemented by tables 2, 3, 4, 23 and 24 show that for military positions above pay grade O-4 civilian positions with equal responsibility have a much higher range of pay. The somewhat lower percentage benefits of retirement are thus countered by greater compensation on which the actual benefits are based. No such differentiation exists in the case of enlisted personnel and lower officer grades. Civilian compensation is just about equal to military compensation at these levels.

A prominent pension authority (1) has stated that an adequate benefit percentage should be about 45% to 50% ex-

clusive of Social Security and those groups without Social Security should receive 60 to 70%. The Continental Illinois National Bank and Trust Company of Chicago makes a similar statement. Therefore, it can be observed that although most companies have a somewhat lower benefit percentage than the military, the military percentage is in line with authoritative thinking and is equalled or surpassed by some companies.

Inducement for long service. There is no denying the point that a retirement system with adequate monetary return induces long service. Tables 6, 8, 9, 10, 11, 12, 13, 14, 15, 19, 21, 22 and 18 present service, age and rank data at time of retirement which prove beyond doubt that retirement plays a very important role in the retention of military personnel in the service. Civil Service breakdowns of retirement indicate the same, although the turnover (exclusive of first enlistments in the military) is higher than the military. No significant data were available on this point for industrials.

Table 18 indicates that only 4 to 7% of all Naval Officers on active duty in 1948 planned to resign. Enlisted personnel do not tend to stay in the service as long as officer personnel. Table 9 indicates enlisted men ages 18-21 comprise 50.7% of total enlisted naval personnel whereas men age 38-41 comprise only 1.7% of total enlisted naval personnel. The same table shows officers ages 23-26 as comprising 19.7% of total Naval Officer personnel and officers, ages 43-46 com-

prising 5.7% of total Naval Officer personnel. Table 8 gives breakdown of enlisted personnel by length of service.

Effect on Mortality. Tables 50 and 51 briefly present a somewhat startling observation. For example, the American Experience Table of Mortality estimates that at age 92, 216 people will be living from 100,000 at age 10. The combined annuity mortality table estimates that at age 92, 2538 people will still be alive. The difference cannot be ascribed to any one factor but a combination of factors indicating that annuitants live longer because of greater peace of mind due to less financial worry; people who can afford to buy annuities can afford better medical care or that potential annuitants are more careful or have more zest for life. No one knows why, but the fact remains that annuitants do live longer. On this one feature alone, a retirement plan is worthwhile to society.

Social Security Law Aspects. Table 52 presents the benefits available under the Social Security program to a worker and his wife at age 65. Congressional legislation already passed by the House of Representatives and awaiting action in the Senate will increase the percentage benefits of industrial plans previously discussed and reduce even further the benefit differences between industry and the military, as monetary benefits will be increased by 70% for Social Security participants.

One interesting feature of this legislation is that it

will give wage credits of \$160 per month served in the Armed Forces between September 1940 and 24 July 1947. This means that under the provisions of the Social Security Act requiring 40 quarters or 10 years participation, many military persons who had prior industrial experience may be able to complete the required time and thus be eligible for Social Security also. It is not clear as to whether or not a military person without prior industrial experience could qualify.

Effect of Retirement Plan on Morale of Armed Forces.

Table 18 as previously state indicate that only 4 to 7% of Naval Officers planned to resign, however, 26% to 28% were undecided, 5% did not answer the question and 22% to 24% planned to retire at 20 years. The reasons given for early retirement, indecision or resignation can be classified into five categories:

1. Family Reasons.
 - a. No home life.
 - b. Family left alone while Officer is at Sea.
 - c. Frequent change of schools for children.
2. Financial Reasons.
 - a. Exorbitant rents and high cost of living at duty points.
 - b. Low pay.
3. Advancement Doubts.
 - a. Slow peacetime promotions.
4. Civilian Opportunities.
5. Other.
 - a. Feeling of insecurity due to changing laws pertaining to military.
 - b. Constantly on duty.
 - c. No private life.
 - d. Expenses through constant moving.
 - e. Bad housing.
 - f. No assurance that retirement laws will not be tampered with.
 - g. No assurance that retirement benefits will be retained or bettered.

It is apparent that an attractive retirement plan is needed to mitigate the difficulties of ordinary service life and that military personnel do give much thought to their retirement.

SUMMARY AND CONCLUSIONS

In order to determine whether or not the retirement plan of the Military Establishment is comparable to those plans established in Industry and Civil Service and to determine further the changes in the Military Plan that should be made, if any, a study of 913² Industrial Retirement Plans, the Civil Service Retirement Plan and the Military Retirement Plan was conducted with the effects of the Social Security Law taken into consideration.

The study has traced the evolution of pensions from its original "relief concept" to the modern trend of thought which considers the cost of pensions as a part of normal business costs. From a primary purpose of meeting the problem of superannuation, the study has covered the existence of other reasons for retirement plans, which in the opinion of some experts, are fully as important as superannuation.

With the increasing importance of harmonious personnel relations in Industry and Government, the Retirement Plan has become a major vehicle in the attempt to improve labor and management relations. As more and more retirement plans have been adopted numerous refinements have appeared in the administration and provisions of the plans.

All of the plans within the scope of the study were examined to establish points of convergence. These points

2. 612 Plans by Hugh O'Neil, Modern Pension Plans, 1947.
289 Retirement Plans by Bankers Trust Company, New York 1948.
12 Plans surveyed in 1950.

were summarized in 52 tables and discussed individually.

On the basis of the results, it can be concluded that the Military Plan is more liberal than most other plans in the provisions of Benefit Percentages, Contributions, Retirement Eligibility Requirements and Disability.

The Military Plan is deficient in the provisions of Vesting and Survivorship Benefits. The data have shown that the Military Plan is relatively low cost, provides an inducement for long service and has a favorable effect on the morale of the Armed Forces.

If it can be assumed that advantageous provisions are necessary in a Military Retirement Plan in order to offset the many vicissitudes, inconveniences and disadvantages of military life, it can also be assumed that without a good retirement program, the military would lose many of its personnel and that in order to retain its effectiveness the present military plan must be improved to keep pace with constantly improving industrial plans and social legislation. Therefore, it is recommended that the Military Retirement Plan be changed to include provisions for Vesting with a deferred annuity and Survivorship Benefits with a reduced annuity. It is recommended further, that in view of circumstances unique to the military, and in the interests of administrative efficiency and low costs, that no changes be made in the present provisions of Eligibility Requirements, Benefit Percentages and Non-contributory method.

BIBLIOGRAPHY

1. O'Neil, Hugh. Modern Pension Plans, Principles and Practices. New York: Prentice Hall, 1947.
2. Encyclopedia Britannica. 11th Edition.
3. International Labour Office. The Compensation of War Victims. Studies and Reports, Series E #6, Geneva, 1940.
4. A Report to the President of the United States on the Labor Dispute in the Basic Steel Industry, September 10, 1949. Washington: Government Printing Office.
5. Pensions: not IF but HOW. Fortune, November 1949.
6. United States Department of the Interior, Office of Education: Insurance and Annuity Plans for College Staffs. Bulletin #5, 1937. Washington: Government Printing Office.
7. Federal Security Agency, Social Security Administration 1948. Social Security in the United States. Washington: Government Printing Office.
8. Career Compensation for the Uniformed Forces. A Report and Recommendation for the Secretary of Defense by the Advisory Commission on Service Pay. December 1948. Washington: Government Printing Office.
9. Meuche, Arthur J. Successful Pension Planning. New York: Prentice Hall, 1949.
10. Miller, Mills Marion. Great Debates in American History. Volume Nine. New York: Current Literature Publishing Company, 1923.
11. 289 Retirement Plans. Bankers Trust Company, New York, 1948.
12. Encyclopedia Americana. 1941 Edition.
13. Voigts, Alfred. A History of Militarism. New York: W. W. Norton and Company, Inc. 1937.
14. Officers Personnel Act of 1947. Public Law 381, 80th Congress. Washington: Government Printing Office.
15. Career Compensation Act of 1949. Public Law 351, 81st Congress. Washington: Government Printing Office.

16. Civil Service Retirement Act of May 29, 1930 as Amended.
Washington: Government Printing Office.
17. U. S. Civil Service Commission Retirement Report.
Fiscal Year Ended June 30, 1948. Washington:
Government Printing Office.
18. Social Security Act of 1935 as amended to 1949.
Washington: Government Printing Office.
19. Scott, Clothier & Spriegel. Personnel Management.
New York: McGraw-Hill Book Company, 1949.
20. Mosher & Kingsley. Public Personnel Administration.
New York: Harper & Brothers, 1941.
21. Employee Retirement Plans. Continental Illinois National
Bank and Trust Company of Chicago, Chicago, Illinois:
1950.

APPENDIX A

Outline of Military Retirement Plan.

I. Retirement for Officers.

A. Statutory Age Retirement (Compulsory).

1. Navy

- a. Fleet Admiral, Age 64.
- b. All other ranks, Age 62.

2. Army

- a. General, Age 64.
- b. Major General, Age 62.
- c. All other ranks, Age 60.

B. Voluntary Service Retirement.

1. Navy

- a. 40 years. Mandatory acceptance by the Secretary of the Navy. Retired Pay 75% of active duty pay.
- b. 30 years. Discretionary of acceptance; retired pay 75% of active duty pay.
- c. 20 to 30 years. Discretionary - retired pay computed at $2\frac{1}{2}\%$ of active duty pay times number of years service.

2. Army

- a. 40 to 50 years. Same as Navy (a).
- b. 30 years. Same as Navy (b).
- c. 20 to 30 years. Same as Navy (c).

C. Involuntary Retirement (for reasons other than disability, inefficiency, moral unfitness or misconduct).

1. Navy

a. Rear Admirals

After 34 years service having been twice passed for retention. Retired at $2\frac{1}{2}\%$ of active duty pay times years of service not to exceed 75% of active duty pay.

b. Captains

After 31 years service, if not on promotion list retired at $2\frac{1}{2}\%$ of active duty pay times years of service not to exceed 75% of active duty pay.

c. Commanders

After 26 years service and if twice failed of selection for promotion retired at $2\frac{1}{2}\%$ of active duty pay times years of service not to exceed 75% of active duty pay.

d. Lieutenant Commanders

After 20 years service and if twice failed of selection for promotion retired at $2\frac{1}{2}\%$ of active duty pay times years of service not to exceed 75% of active duty pay.

e. Lieutenant Senior Grade and Lieutenant Junior Grade

If twice failed of selection, honorably discharged with lump sum payment computed on the basis of two months active duty pay at time of discharge for each year of service.

f.. Ensigns

With less than three years service, commission may be revoked and discharged without advance pay and allowances.

Failure to pass professional examinations twice, discharged with 2 months pay for every year of commissioned service. This regulation applies to higher ranks through Commander under the same provisions as having twice failed of selection.

g. Warrant Officers

Subject to same statute as is applicable in the case of commissioned Officers. There are no selection or examination requirements.

2. Army

a. Major General

After 35 years service, having been twice passed for retention. Otherwise same as Navy 1a.

b. Brigadier General

After 30 years unless nominated to Major General. Otherwise same as Navy 1a.

c. Colonel

After 30 years. Otherwise same as Navy 1b.

d. Lieutenant Colonels

After 20 years. Otherwise same as Navy 1c.

e. Majors, Captains and First Lieutenants

If twice passed over for promotion, if eligible for retirement they are retired. If within two years of retirement, are permitted to stay until entitled to retirement. If on date of elimination not eligible for retirement not within two years of such eligibility, honorably discharged.

f. Second Lieutenants

Same as Navy 1f.

g. Warrant Officers

Same as Navy 1g.

D. Involuntary Retirement for Inefficiency Moral Unfitness or Misconduct.

1. Navy

- a. Inefficiency
 - (1) If less than 20 years service, discharged with 2 months pay for every year of duty not to exceed 2 years pay.

- b. Moral unfitness or misconduct
 - (1) Discharged with not more than 1 year's pay.

2. Army

- a. Inefficiency

- (1) If not otherwise eligible for retirement discharged with 1 month's pay for every year of duty not to exceed 1 year's pay.

- b. Moral unfitness or misconduct

- (1) If not otherwise eligible for retirement discharged with not more than one year's pay.

E. Physical Disability. Applies to all members of the uniformed services with less than 20 years service.

1. Retirement Conditions

- a. No minimum length of service required if disability is the proximate result of the performance of active duty.

- b. A minimum of 8 years service if disability is not the proximate result of the performance of active duty.

- c. Disability must be 30 per centum or more in accordance with the standard schedule of rating disabilities in current use by the Veterans' Administration.

- d. Disability is not due to the intentional misconduct or willful neglect and was not incurred during a period of unauthorized absence.

- e. Accepted medical principles indicate such disability is or may be of a permanent nature otherwise retained on active duty or recalled at a later date.

- f. Computation of disability retirement pay.

- (1) Number of years of service times basic pay or

- (2) Basic pay times percentage of disability

- (3) Not to exceed 75% of base pay in either case.

2. Separation in lieu of retirement if ineligible for retirement

- a. Paid 2 months' base pay of rank rate or grade held times years of service not to exceed two years pay.

II. Retirement for Enlisted Personnel

A. Voluntary

1. Navy

- a. 30 years service. Mandatory of acceptance by Secretary of Navy as 75% of active duty pay.
- b. 20 to 30 years service. Mandatory of acceptance by Secretary of Navy.
 - (1) Transfer to Fleet Reserve at annual retainer pay of $2\frac{1}{2}\%$ per year times number of years service or $\frac{1}{2}$ of base pay. After 30 years transferred to regular retired list with pay then legally entitled to receive.
- c. 16 to 20 years service
 - (1) Transfer to Fleet Reserve at the rate of $1/3$ of base pay. Otherwise same as above.

2. Army

- a. 30 years service. Mandatory of acceptance at 75% of active duty pay.
- b. 20 to 30 years service. Mandatory of acceptance. Transfer to Enlisted Reserve Corps at $2\frac{1}{2}\%$ per year times years of Federal Service.

B. Involuntary

- 1. Refusal of either the Service or the Enlisted person to accept re-enlistment does not constitute retirement involving payment.
- 2. Separation by discharge does not involve payment of retirement funds.

C. Age Retirement

- 1. There is no age at which an enlisted man may be compelled to retire. As to re-enlistments, age is not a factor if a man re-enlists within 3 months; if more than 3 months elapses a break in service occurs and the maximum age limit for re-enlistment is non-attainment of the 31st birthday. However, a man is permitted to deduct all of his active duty service from his age to aid in bringing him within the age limit. Also, age is no factor if there is a critical shortage within the rate.

D. Physical Disability

- 1. In accordance with Public Law 351, 81st Congress otherwise known as the Career Compensation Act, disability provisions relating to officers apply to enlisted personnel as well.

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